

Project Approach

- Resource Manager
 - Reports to the senior project officer.
 - The hardware, software, and systems engineer will report to the resource manager.
 - Responsible for keeping the project on schedule.
 - Assign tasks for the team to meet deadlines.
 - Oversee documentation.
- Systems Engineer
 - Reports to the Resource Manager.
 - The hardware and software engineers will report to the systems engineer.
 - Define project definitions.
 - Determine system specifications.
 - Facilitate work between hardware and software engineer.
- Hardware Engineer
 - Reports to the systems engineer and resource manager.
 - Design, build, and test prototypes.
 - Document circuit plans, construction, and testing.
 - Evaluate components.
- Software Engineer
 - Reports to the systems engineer and resource manager.
 - Define, plan, and implement software solutions.
 - Develop user interfaces.
- Quality Objectives

The quality objectives of the project will be to clearly specify project goals and requirements through careful planning. All members will strive to meet project goals and an iterative process will be employed to further the quality of the design. The systems engineer will work with the group to set achievable quality goals.
- Resources Needed

The resources needed for the project will be an adequate workspace to design, develop, and test all aspects of the project. This workspace should be kept organized so that work can be as efficient as possible. Tools will be required for testing such as oscilloscopes, multimeters, computers, and other hardware testing tools as needed. Software development tools such as circuit simulators and program compilers will also be needed.

Risk Management

- **Risk Mitigation**

The most important part of risk mitigation will be careful planning. By taking time to completely lay out project objectives and the means of reaching those objectives, obstacles can be avoided proactively. Alternative solutions will be considered for all aspects of the project and the pros and cons documented for each. This way, there will be a backup if problems do arise. Any unforeseen problems that arise will be discussed and a solution decided on by the group. While the group members may not be experts in all areas of the project, they will each bring a different perspective to the table. Any late additions to the project will be carefully weighed against the schedule to avoid scope creep and schedule slip.

- **Action Steps**

Any unforeseen problems that arise will be discussed as a group. Each member should be aware of the entirety of the project. The resource manager will be responsible for knowing when any scheduling conflicts arise. Any change in the scope of the project must be approved by the resource manager. The Analytical Hierarchy Process will be explored for major decisions in the project.

Project Control

- **Methods**

All work from each group member will be tracked in the logbook. Notes will include a date and time. The resource manager will communicate the scope and progress of the project to the senior project officer. All meeting minutes will be documented and include date, time, attendance, what was discussed, what was done, and what is expected going forward.

- **Means**

A detailed Gantt chart will be constructed showing project goals, projected dates, and task responsibilities. The resource manager will be responsible for making sure the group adheres to the goals set by the Gantt chart.